

Hardman Structural Engineers

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107-109 Hampstead Road

Party Wall Document for 111-113 Hampstead Road

Sheet Number 1

Date MAY 2010

Engineer AA

Checked PH

Project 107 - 109 HAMPSTEAD RD

Project No 983

Revision

BASEMENT CONSTRUCTION METHODOLOGY

A SINGLE STOREY BASEMENT IS TO BE FORMED ON THE SITE OF 107 - 109 HAMPSTEAD RD. THE SITE IS BOUNDED: BY: HAMPSTEAD ROAD TO

D HAMPSTEAD ROAD TO THE EAST

D A 5 STOREY BUILDING TO THE NORTH
→ NO 111 - 113 HAMPSTEAD ROAD.

D NETLEY STREET TO THE SOUTH

D A 4 STOREY BUILDING TO THE WEST
→ NO 38 NETLEY STREET

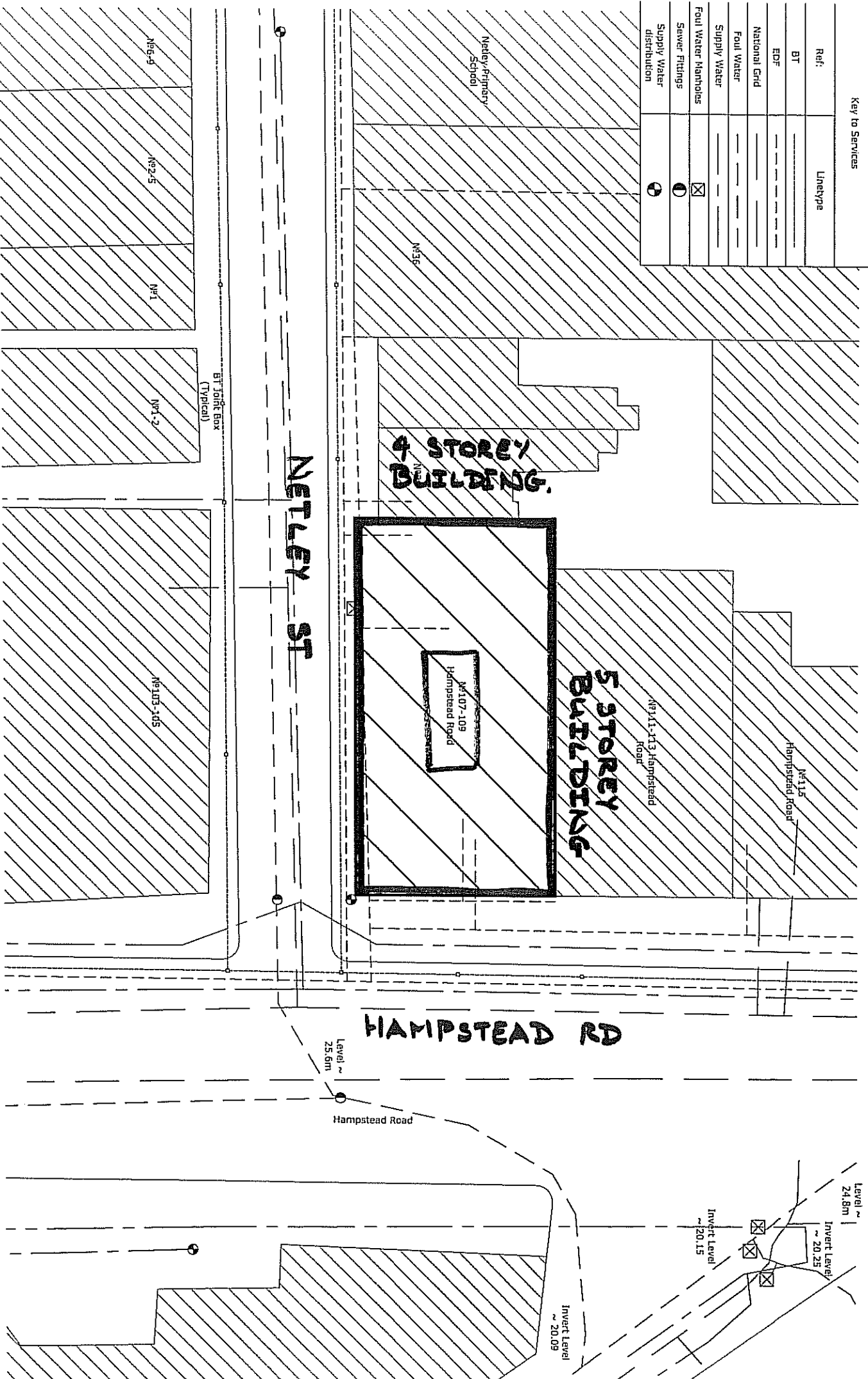
THIS IS SHOWN ON THE LOCATION PLAN
PAGE 2.

DURING THE EXCAVATION OF THE SITE AND THE CONSTRUCTION OF THE NEW BASEMENT, THE STABILITY OF THE ADJACENT STRUCTURES MUST BE ENSURED. IN ORDER TO ACHIEVE THIS, THE WORKS SHALL BE CARRIED OUT IN STAGES.

THE PRESENT DOCUMENT DESCRIBES THE WORKS TO BE CARRIED OUT DURING EACH STAGE AND THE KEY STRUCTURAL ELEMENTS WHICH WILL ENSURE THAT STABILITY OF THE ADJACENT STRUCTURES WILL BE MAINTAINED.

Key to Services

Ref:	Linetype
BT	---
EDF	---
National Grid	---
Foul Water	---
Supply Water	---
Foul Water Manholes	⊗
Sewer Fittings	⊙
Supply Water distribution	⊕



No	Date	Comments

Note

1. Refer to DWG-11 for general notes

Project	107-109 Hampstead Road	Issue	1/200 © AJ	Sheet No.	01
Client	Nonovan Construction Ltd	Drawn By	SS	Checked By	01
Site	Site Plan	Date	April 2010	Scale	Preliminary
	Existing				

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 100-102, 104, 106, 108, 110, 112, 114, 116, 118, 120, 122, 124, 126, 128, 130, 132, 134, 136, 138, 140, 142, 144, 146, 148, 150, 152, 154, 156, 158, 160, 162, 164, 166, 168, 170, 172, 174, 176, 178, 180, 182, 184, 186, 188, 190, 192, 194, 196, 198, 200, 202, 204, 206, 208, 210, 212, 214, 216, 218, 220, 222, 224, 226, 228, 230, 232, 234, 236, 238, 240, 242, 244, 246, 248, 250, 252, 254, 256, 258, 260, 262, 264, 266, 268, 270, 272, 274, 276, 278, 280, 282, 284, 286, 288, 290, 292, 294, 296, 298, 300, 302, 304, 306, 308, 310, 312, 314, 316, 318, 320, 322, 324, 326, 328, 330, 332, 334, 336, 338, 340, 342, 344, 346, 348, 350, 352, 354, 356, 358, 360, 362, 364, 366, 368, 370, 372, 374, 376, 378, 380, 382, 384, 386, 388, 390, 392, 394, 396, 398, 400, 402, 404, 406, 408, 410, 412, 414, 416, 418, 420, 422, 424, 426, 428, 430, 432, 434, 436, 438, 440, 442, 444, 446, 448, 450, 452, 454, 456, 458, 460, 462, 464, 466, 468, 470, 472, 474, 476, 478, 480, 482, 484, 486, 488, 490, 492, 494, 496, 498, 500, 502, 504, 506, 508, 510, 512, 514, 516, 518, 520, 522, 524, 526, 528, 530, 532, 534, 536, 538, 540, 542, 544, 546, 548, 550, 552, 554, 556, 558, 560, 562, 564, 566, 568, 570, 572, 574, 576, 578, 580, 582, 584, 586, 588, 590, 592, 594, 596, 598, 600, 602, 604, 606, 608, 610, 612, 614, 616, 618, 620, 622, 624, 626, 628, 630, 632, 634, 636, 638, 640, 642, 644, 646, 648, 650, 652, 654, 656, 658, 660, 662, 664, 666, 668, 670, 672, 674, 676, 678, 680, 682, 684, 686, 688, 690, 692, 694, 696, 698, 700, 702, 704, 706, 708, 710, 712, 714, 716, 718, 720, 722, 724, 726, 728, 730, 732, 734, 736, 738, 740, 742, 744, 746, 748, 750, 752, 754, 756, 758, 760, 762, 764, 766, 768, 770, 772, 774, 776, 778, 780, 782, 784, 786, 788, 790, 792, 794, 796, 798, 800, 802, 804, 806, 808, 810, 812, 814, 816, 818, 820, 822, 824, 826, 828, 830, 832, 834, 836, 838, 840, 842, 844, 846, 848, 850, 852, 854, 856, 858, 860, 862, 864, 866, 868, 870, 872, 874, 876, 878, 880, 882, 884, 886, 888, 890, 892, 894, 896, 898, 900, 902, 904, 906, 908, 910, 912, 914, 916, 918, 920, 922, 924, 926, 928, 930, 932, 934, 936, 938, 940, 942, 944, 946, 948, 950, 952, 954, 956, 958, 960, 962, 964, 966, 968, 970, 972, 974, 976, 978, 980, 982, 984, 986, 988, 990, 992, 994, 996, 998, 1000.

Sheet Number 2

Date MAY 2010

Engineer AA

Checked

Project 107 - 109 HAMPSTEAD RD.

Project No 983

Revision

STAGE 1

REFER TO STAGE 1 DRAWING PAGE 3

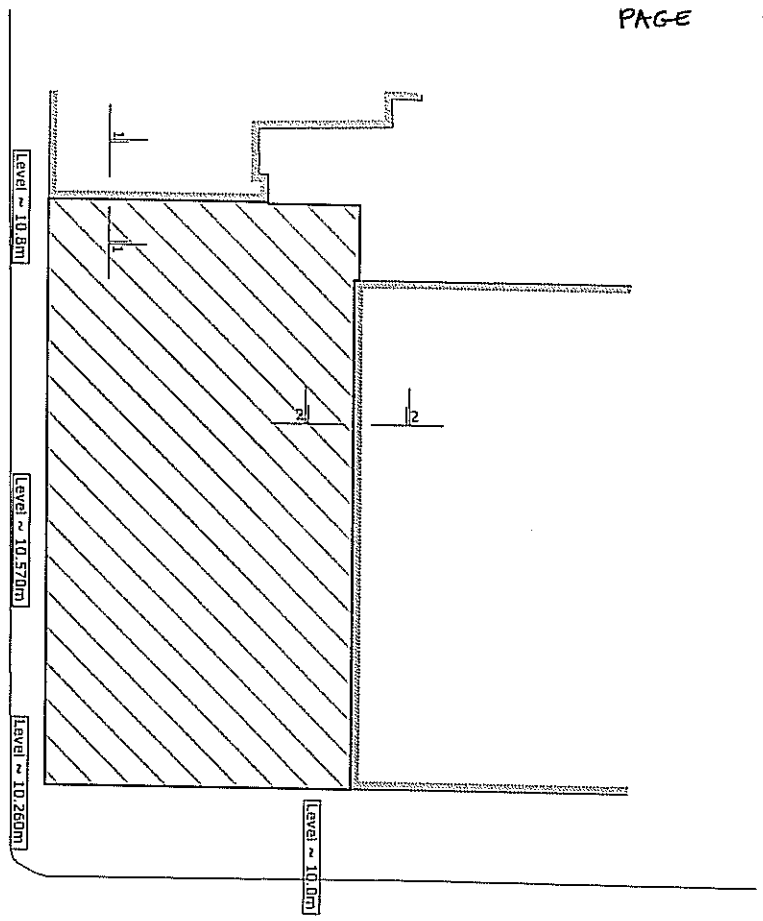
- THE STAGE 1 DRAWING ILLUSTRATES THE CURRENT LEVELS ON THE SITE INCLUDING THE FOOTINGS OF THE ADJACENT BUILDINGS
- THE FOUNDATIONS TO NO 38 NETLEY STREET IS APPROXIMATELY 1.8m BELOW THE GROUND LEVEL ON THE SITE.
- THE FOUNDATIONS TO NO 111-113 HAMPSTEAD RD IS APPROXIMATELY 4.12m BELOW THE GROUND LEVEL ON THE SITE. WE UNDERSTAND THAT THIS BUILDING HAS A BASEMENT.

STAGE 2

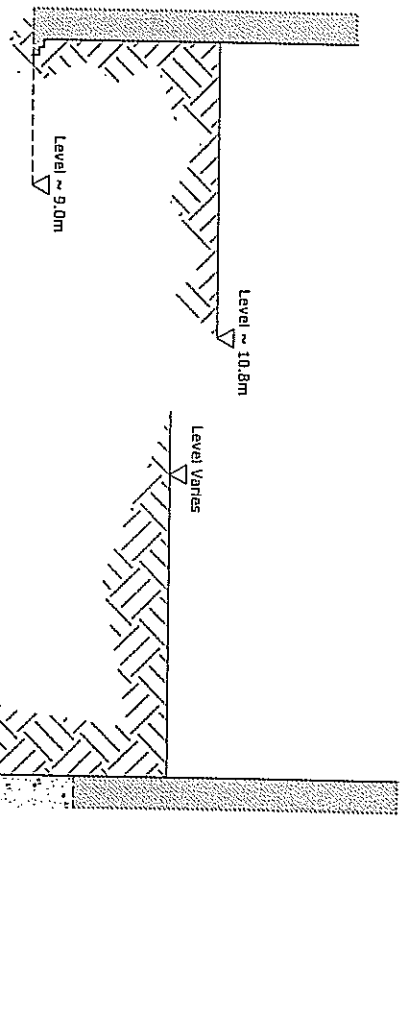
REFER TO STAGE 2 DRAWING PAGE 4

- DURING STAGE 2 STEEL SHEET PILING WILL BE DRIVEN AROUND THE SITE BOUNDARY TO NETLEY STREET.
- THIS WILL ENABLE THE EXCAVATION OF 1m OF EARTH ON THE SITE USING THE STEEL SHEET PILE WALL TO TEMPORARILY RETAIN THE SOIL MASS BELOW STREET LEVEL.
- SINCE THE LEVEL OF THE SITE WILL REMAIN APPROXIMATELY 0.8m ABOVE THE FOOTING LEVEL OF NO 38 NETLEY STREET WE WILL AVOID UNDERMINING THIS BUILDING.
- DUE TO THE PRESENCE OF THE BASEMENT OF NO 111-113 HAMPSTEAD RD THERE WOULD BE NO RETAINING ISSUES ON THIS BOUNDARY.

STAGE 1. - EXISTING SITE CONDITION.



**PLAN
SCALE 1/200**



**SECTION 1
SCALE 1/50**

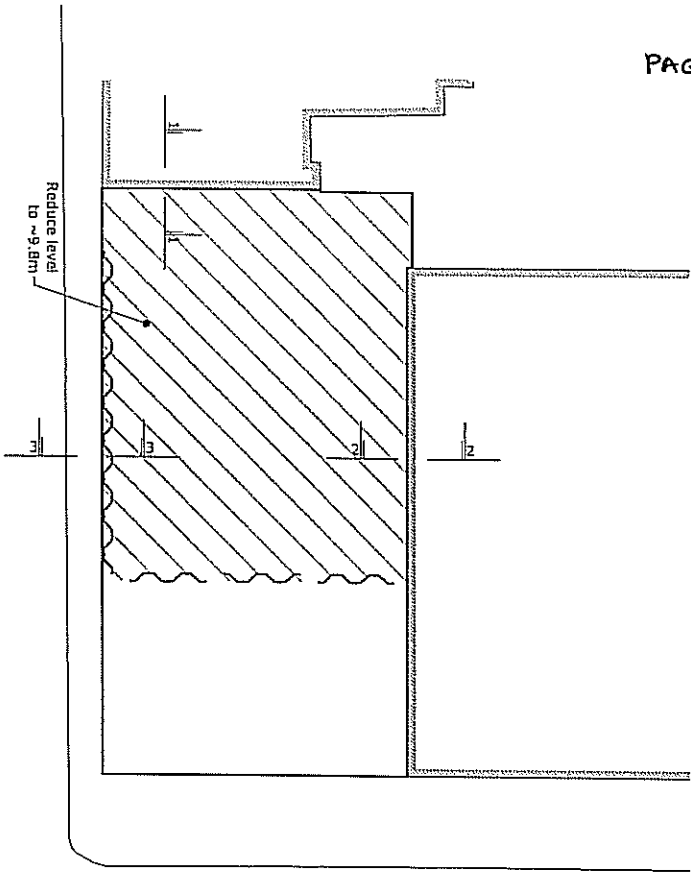
**SECTION 2
SCALE 1/50**

No.	Date	Checked	By

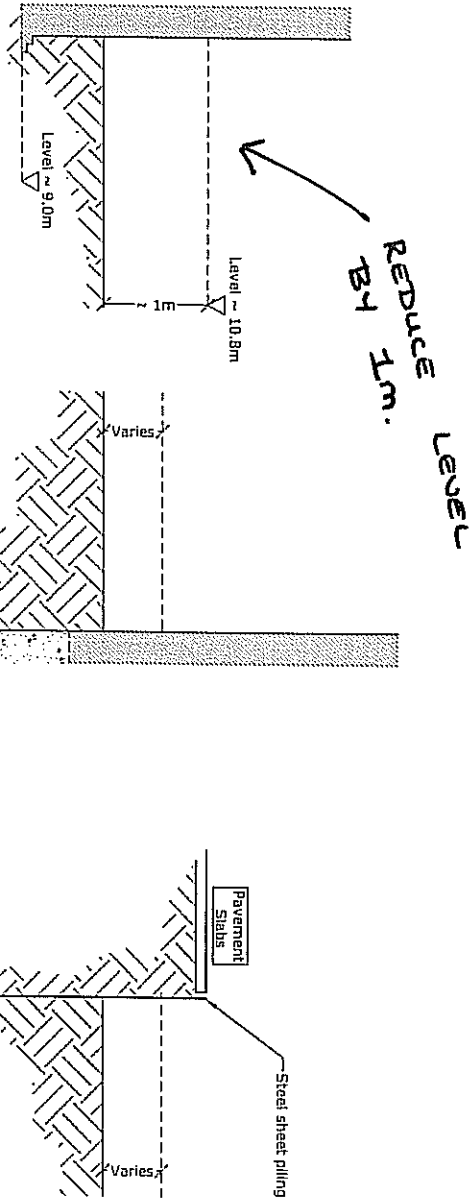
Note
1. Refer to Dwg. 11 for general notes

Project: 107-109 Hamstead Road		Issue No: 913
Client: Manavon Construction Ltd		Issue Date: 05 April 2010
Task: Suggested Sequence of Construction Stage 1		Issue Description: Final
		Issue No: 61

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PLAN
SCALE 1/200



SECTION 1
SCALE 1/50

SECTION 2
SCALE 1/50

SECTION 3
SCALE 1/50

Note
1. Refer to DWG. 11 for general notes

No.	Date	By	Check

Project	107-109 Hampstead Road	Scale	Varies	Sheet No.	62
Client	Monavon Construction Ltd	Drawn By	62	Checked By	62
Task	Suggested Sequence of Construction	Date	April 2010	Project	62
Stage	Stage 2	Phase	Preliminary		

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 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100
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Sheet Number 6

Date MAY 2010

Engineer AA

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Project 107 - 109 HAMPSTEAD RD

Project Nº 983

Revision

STAGE 3

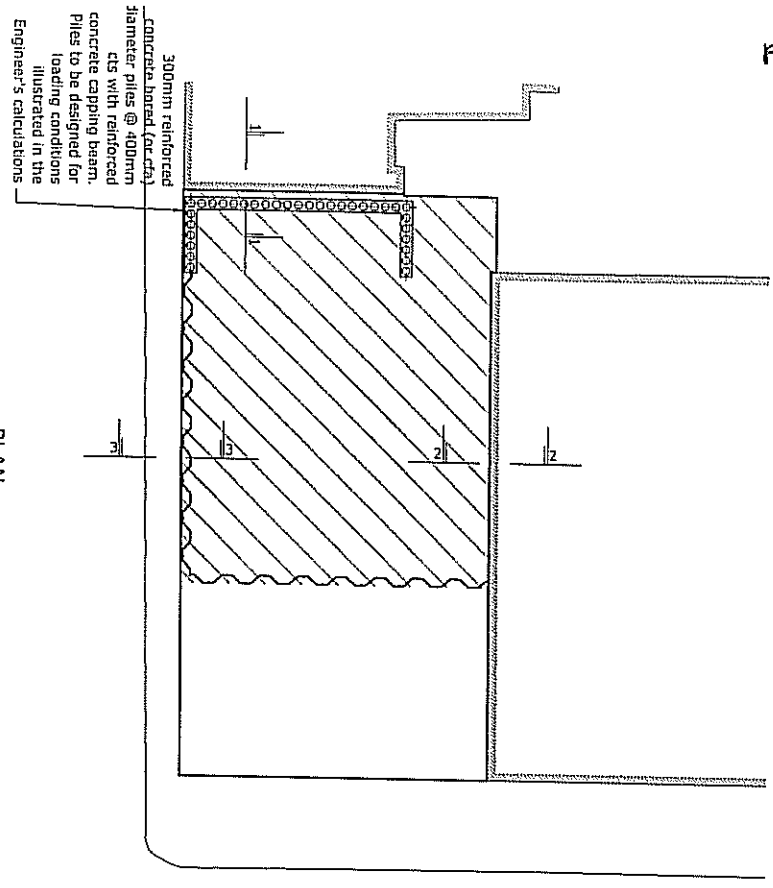
REFER TO STAGE 3 DRAWING PAGE 6

- AT STAGE 3 A 300mm REINFORCED CONCRETE CONTINUOUS AUGER PILE WALL WILL BE CONSTRUCTED ADJACENT TO NO 38 NETLEY STREET.
- A REINFORCED CONCRETE CAPPING BEAM WILL BE PROVIDED AT THE TOP OF THE PILES TO TIE THE PILES TOGETHER.

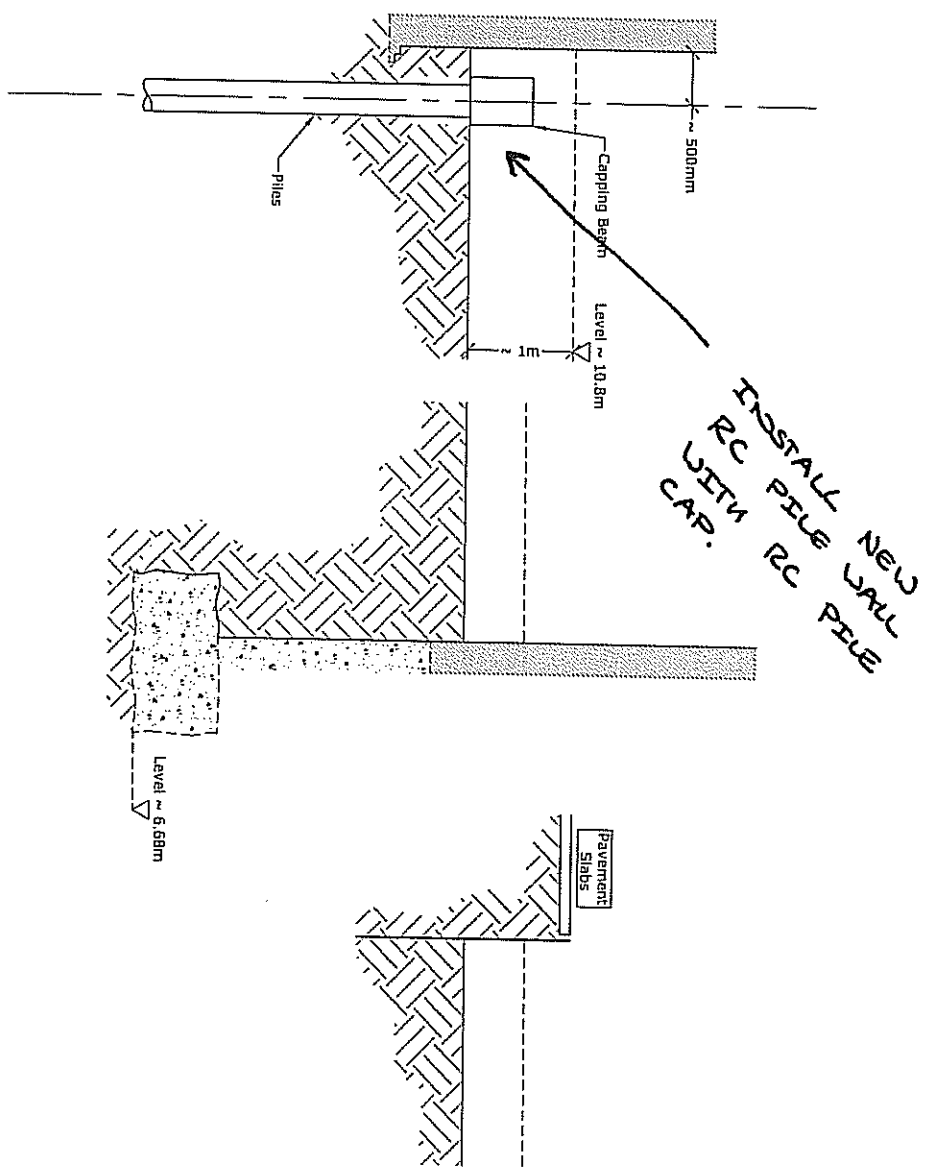
STAGE 4

REFER TO STAGE 4 DRAWING PAGE 7

- THE CONSTRUCTION OF THE RC PILE WALL ADJACENT TO NO 38 NETLEY STREET WILL ENABLE THE EXCAVATION OF AN ADDITIONAL 1.5m (APPROX) EARTH FROM THE SITE USING THE PILE WALL TO RESIST THE LATERAL LOADING FROM NO 38 NETLEY STREET.
- AT THIS LEVEL (APPROX = 2.5m BELOW EXISTING GROUND LEVEL) A STEEL WHALING BEAM WILL BE INSTALLED. THE STEEL BEAM WILL BE DESIGNED TO RESIST PART OF THE LATERAL LOADS ON THE PILE WALL AND WILL SPAN BETWEEN THE RETURN WALLS AT EITHER END.



PLAN
SCALE 1/200



SECTION 1
SCALE 1/50

SECTION 2
SCALE 1/50

SECTION 3
SCALE 1/50

No.	Date	Comments	By

Note
1. Refer to DWG. 11 for general notes

Project	107-109 Hampstead Road	Issue	003
Date	Monaxon Construction Ltd	Revised By	SS
Use	Suggested Sequence of Construction	Date	April 2010
Stage	3	Phase	Preliminary
			63

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 Suite 111, 111-115, 115-119, 119-123, 123-127, 127-131, 131-135, 135-139, 139-143, 143-147, 147-151, 151-155, 155-159, 159-163, 163-167, 167-171, 171-175, 175-179, 179-183, 183-187, 187-191, 191-195, 195-199, 199-203, 203-207, 207-211, 211-215, 215-219, 219-223, 223-227, 227-231, 231-235, 235-239, 239-243, 243-247, 247-251, 251-255, 255-259, 259-263, 263-267, 267-271, 271-275, 275-279, 279-283, 283-287, 287-291, 291-295, 295-299, 299-303, 303-307, 307-311, 311-315, 315-319, 319-323, 323-327, 327-331, 331-335, 335-339, 339-343, 343-347, 347-351, 351-355, 355-359, 359-363, 363-367, 367-371, 371-375, 375-379, 379-383, 383-387, 387-391, 391-395, 395-399, 399-403, 403-407, 407-411, 411-415, 415-419, 419-423, 423-427, 427-431, 431-435, 435-439, 439-443, 443-447, 447-451, 451-455, 455-459, 459-463, 463-467, 467-471, 471-475, 475-479, 479-483, 483-487, 487-491, 491-495, 495-499, 499-503, 503-507, 507-511, 511-515, 515-519, 519-523, 523-527, 527-531, 531-535, 535-539, 539-543, 543-547, 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Sheet Number 9

Date MAY 2010

Engineer AA

Checked

Project 107 - 109 HAMPSTEAD ROAD

Project Nº 983

Revision

STAGE 5

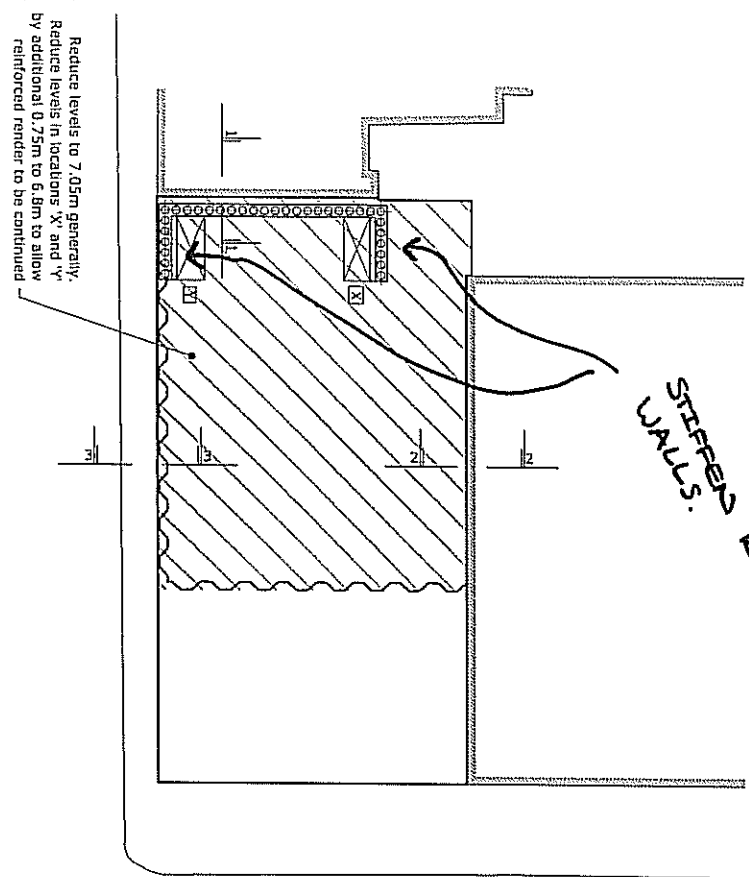
REFER TO STAGE 5 DRAWINGS PAGE 10

- D THE CONSTRUCTION OF THE STEEL WHALING BEAM TO SUPPORT LATERAL LOADING FROM THE NO 38 NETLEY STREET WILL ENABLE A FURTHER 0.75m OF EARTH TO BE EXCAVATED FROM THE SITE.
- E IN ADDITION FURTHER EXCAVATIONS WILL TAKE PLACE AT THE RETURN WALL LOCATIONS THIS WILL ENABLE A REINFORCEMENT RENDER TO BE APPLIED TO THE FACE OF THE RETURN WALLS TO ADD IN PLANE STIFFNESS TO THESE SECTIONS OF WALL, TO RESIST THE LATERAL FORCES TAKEN BY BOTH THE RC CAPPING BEAM AND THE STEEL WHALING BEAM.

STAGE 6 & 7

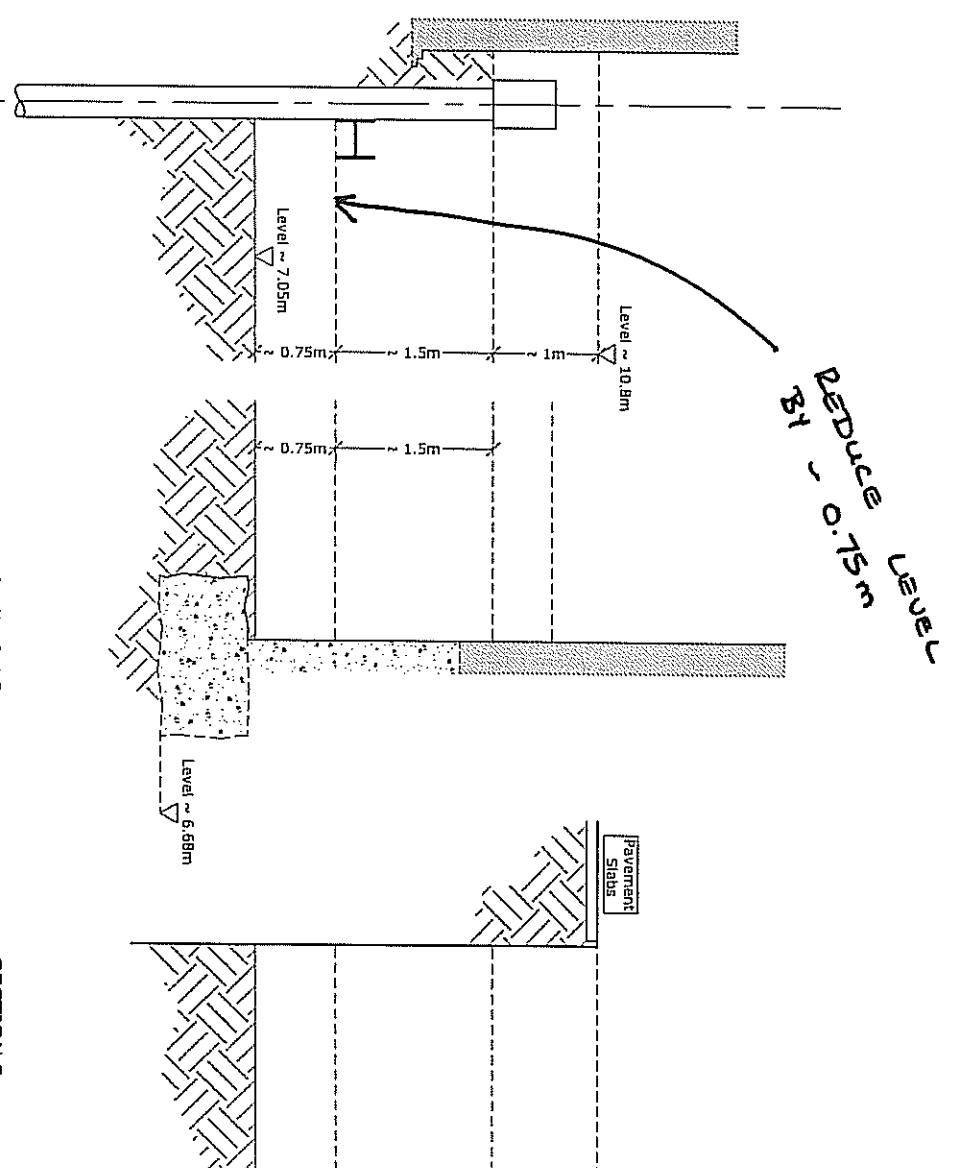
REFER TO STAGE 6/7 DRAWINGS PAGES 11 + 12

- D STAGE 6 REPRESENTS THE FULL EXCAVATIONS OF THE SITE TO THE LEVEL OF THE NEW BASEMENT.
- D ONCE THE SITE HAS BEEN EXCAVATED THE BASEMENT SLAB WILL BE CAST TO PROVIDE A LATERAL SUPPORT TO THE RC PILE WALL.
- D THE GROUND FLOOR SLAB WILL THEN BE CAST TO PROVIDE A SECOND STIFF LATERAL SUPPORT POINT FOR THE RC PILE WALL.
- D THE PILE WILL BE DESIGNED TO SPAN VERTICALLY BETWEEN THE GROUND AND BASEMENT SLABS TO ENABLE THE STEEL WHALING BEAM TO BE REMOVED



STEPED RETURNS WALLS.

PLAN
SCALE 1/200



SECTION 1
SCALE 1/50

SECTION 2
SCALE 1/50

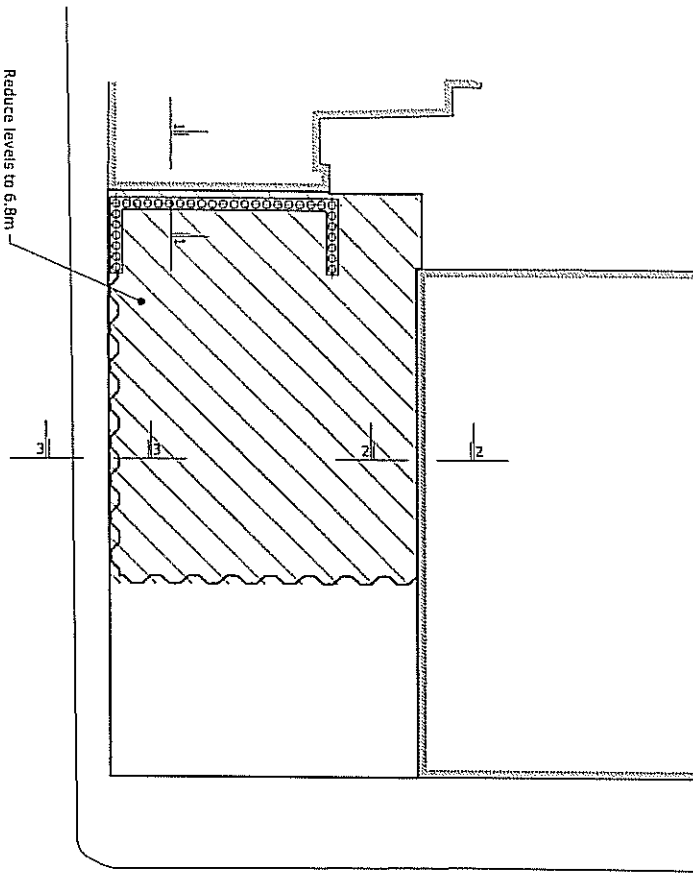
SECTION 3
SCALE 1/50

Rev	Desc	By

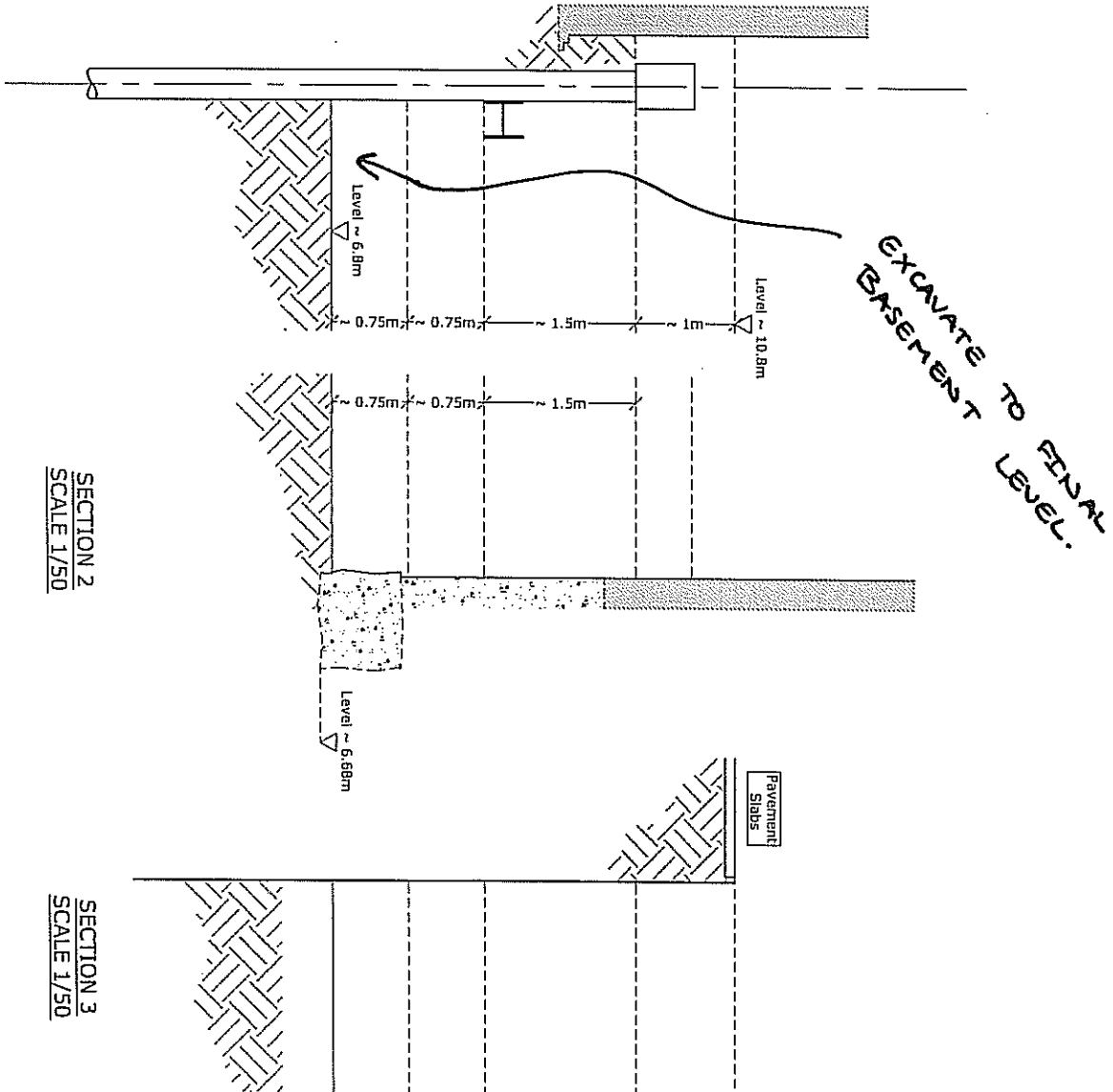
Note
1. Refer to Dwg. 11 for general notes

Project	107-109 Hampstead Road	Drawn	WJ	Scale	65
Client	Monayon Construction Ltd	Date	April 2010	Sheet No	65
Task	Suggested Sequence of Construction	Stage	Preliminary	Revision	

Hordman Structural Engineers
 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100
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PLAN
SCALE 1/200



SECTION 1
SCALE 1/50

SECTION 2
SCALE 1/50

SECTION 3
SCALE 1/50

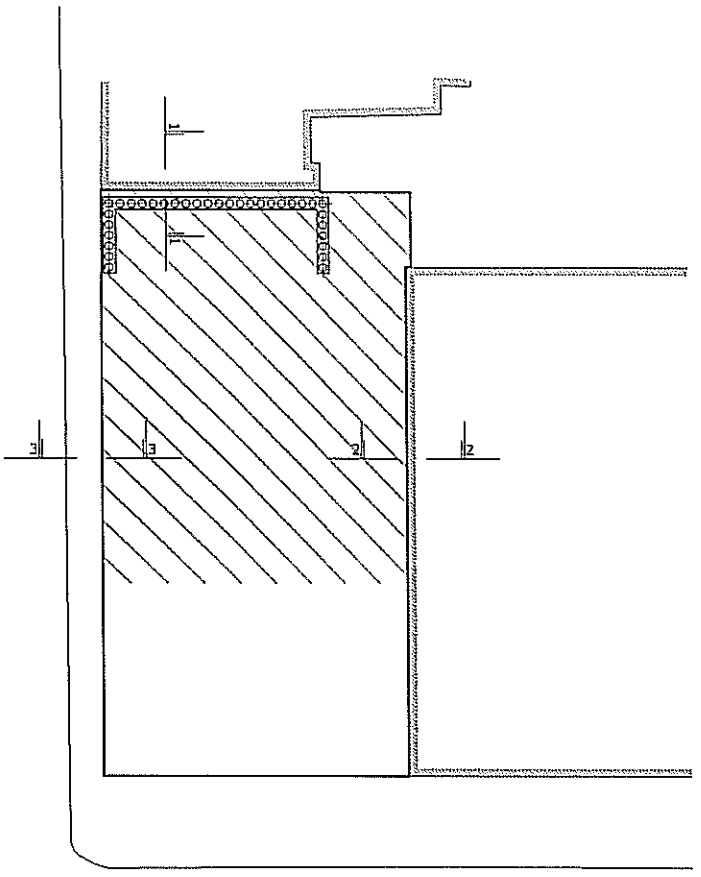
No.	Date	Content	By

Note

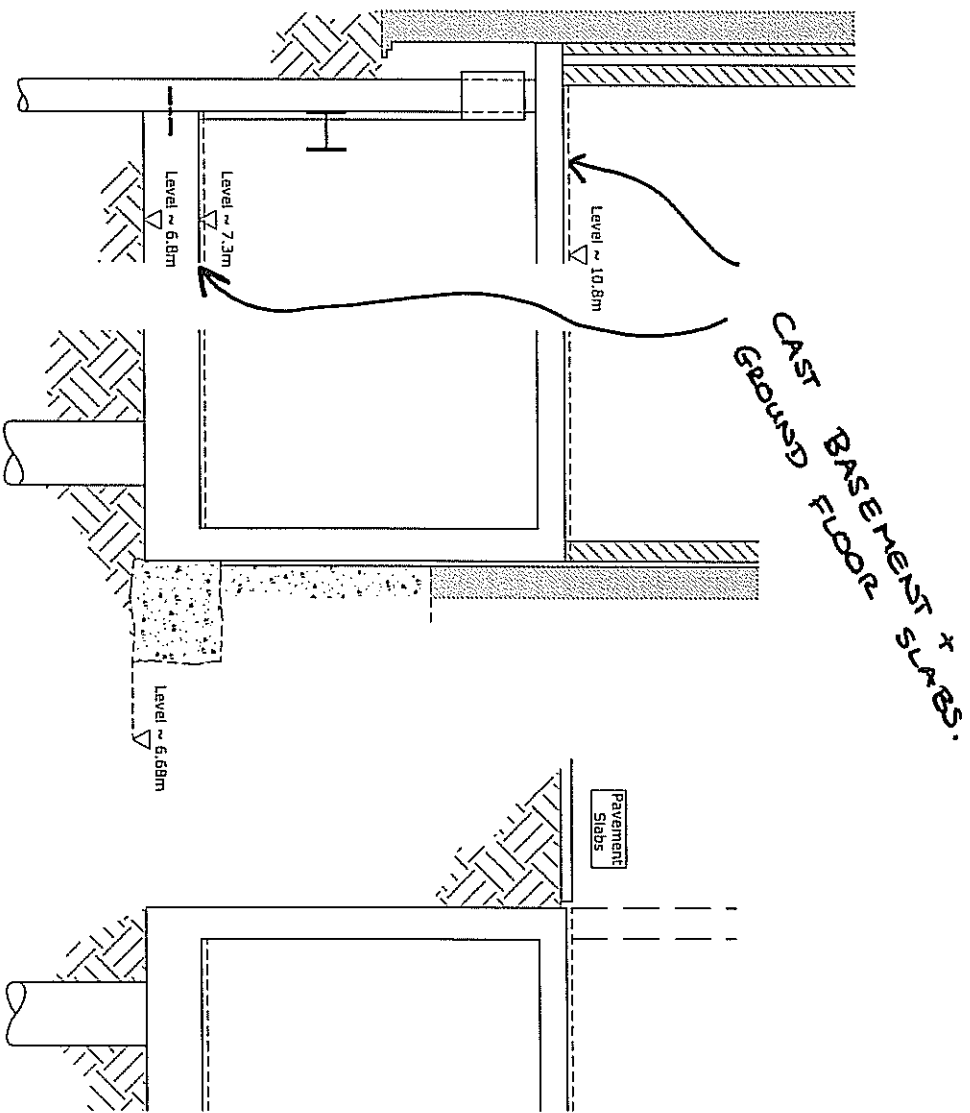
1. Refer to Dwg. 11 for general notes

Project	107-109 Handstead Road	Issue	Varies	Job No.	903
Client	Monahan Construction Ltd	Order No.	55	Drawing No.	66
The Suggested Sequence of Construction		Date	April 2010		
Stage 6		Issue	Preliminary		

Hardman Structural Engineers
Hardman 111, 124-126 Colindale Avenue, London NW9 3AQ
Telephone: 020 8453 3333 Fax: 020 8453 3334
Website: www.hardmanstructural.com
Registered in England & Wales, Company No. 1411131



PLAN
SCALE 1/200



SECTION 1
SCALE 1/50

SECTION 2
SCALE 1/50

SECTION 3
SCALE 1/50

Rev	Date	Changes	By

Note
1. Refer to Dwg. 11 for general notes

Project	107-109 Hamstead Road	Issue	Version	Drawn by	983
Client	Monavon Construction Ltd	Project No	55	Checked by	67
Issue	Suggested Sequence of Construction	Date	April 2010	Issue	
	Stage 7	Issue	Preliminary		

Hardman Structural Engineers
 114-116 Colindale Avenue, London NW9 1JH
 Tel: 0208 447 8900
 Fax: 0208 447 8901
 Registered Structural Engineers No. 141 027
 Registered as General Building Contractors No. 141 011

Studio 112, 134-146 Curtain Road, London EC2A 3AR
 Tel 020 7729 7900 Fax 020 7729 7707
 Email info@hardmanengineers.com
 Web http://hardmanengineers.com

Sheet Number 13

Date MAY 2010

Engineer AA

Checked

Project 107 - 109 HAMPSTEAD ROAD.

Project No 983

Revision

LOADINGS - FOR PILE DESIGN.

ROOF LOAD

TIMBER ROOF DECK ON STEEL BEAMS.

ASPHALT WATERPROOFING	0.45
TIMBER JOISTS + INSULATION	0.2
STEELWORK	0.4
PLYWOOD	0.15
CEILING + SERVICES	0.25

TOTAL DEAD LOAD 1.45 kN/m²

LIVE LOAD

SNOW AND ACCESS 0.75 kN/m²

TYPICAL FLOOR

250 mm THICK SLAB	6.0
50 mm SCREED	1.1
PARTITIONS	1.5
FINISHES	1.0
CEILING + SERVICES	0.25

TOTAL DEAD LOAD 9.85 kN/m²

LIVE LOAD

RESIDENTIAL 1.5 kN/m²

BASEMENT

500 mm THICK SLAB	12.0
50 mm SCREED	1.1
PARTITIONS	1.5
FINISHES	1.0

TOTAL = 15.6 kN/m²

LIVE LOAD = 1.5

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Sheet Number 14

Date MAY 2010

Engineer AA

Checked

Project 107 - 109 HAMPSTEAD ROAD.

Project No 983

Revision

LOAD TAKE-DOWN ADJACENT TO NO 111-117 HAMPSTEAD RD

$$\begin{aligned} \text{ROOF LEVEL} &= (1.45 \text{ kN/m}^2 \text{ DL} + 0.75 \text{ kN/m}^2 \text{ LL}) \times 2.4 \text{ m} \\ &= \underline{3.5 \text{ kN/m DL} + 1.8 \text{ kN/m LL}} \end{aligned}$$

$$\begin{aligned} \text{5TH FLOOR LEVEL} &= (9.85 \text{ kN/m}^2 \text{ DL} + 1.5 \text{ kN/m}^2 \text{ LL}) \times 2.4 \text{ m} \\ &= \underline{23.7 \text{ kN/m DL} + 3.6 \text{ kN/m LL}} \end{aligned}$$

$$\text{4TH FLOOR LEVEL} = \underline{23.7 \text{ kN/m DL} + 3.6 \text{ kN/m LL}}$$

$$\text{3RD FLOOR LEVEL} = \underline{23.7 \text{ kN/m DL} + 3.6 \text{ kN/m LL}}$$

$$\text{2ND FLOOR LEVEL} = \underline{23.7 \text{ kN/m DL} + 3.6 \text{ kN/m LL}}$$

$$\text{1ST FLOOR LEVEL} = \underline{23.7 \text{ kN/m DL} + 3.6 \text{ kN/m LL}}$$

$$\text{GROUND FLOOR} = \underline{23.7 \text{ kN/m DL} + 3.6 \text{ kN/m LL}}$$

$$\begin{aligned} \text{BASEMENT} &= (15.6 \text{ kN/m}^2 \text{ DL} + 1.5 \text{ kN/m}^2 \text{ LL}) \times 2.4 \text{ m} \\ &= \underline{37.5 \text{ kN/m DL} + 3.6 \text{ kN/m LL}} \end{aligned}$$

$$\begin{aligned} \text{FACADE} &= 3.5 \text{ kN/m}^2 \text{ ON ELEVATION} \times 20.0 \text{ m} \\ &= \underline{70 \text{ kN/m}} \end{aligned}$$

$$\text{TOTAL LOAD} = \underline{254 \text{ kN/m DL} + 27 \text{ kN/m LL}}$$

APPLY 40% LIVE LOAD REDUCTION

$$\text{TOTAL LOAD} = \underline{254 \text{ kN/m DL} + 16.2 \text{ kN/m LL}}$$

LOADED LENGTH 6.3 m

TOTAL LOADS AT SLAB EDGE ADJACENT TO
111 - 117 HAMPSTEAD ROAD

$$\begin{aligned} &= 254 \text{ kN/m DL} + 16.2 \text{ kN/m LL} \times 6.3 \text{ m} \\ &= \underline{1600 \text{ kN DL} + 102 \text{ kN LL}} \end{aligned}$$

5 NO PILES ON THIS FACADE.

$$\text{LOAD IN EACH PILE} = \underline{320 \text{ kN DL} + 21 \text{ kN LL}}$$